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German/Translation

**EUROPEAN PATENT APPLICATION**  
**PUBLICATION NO. EP 0 969 242 A2**

**International Classification:**

**F17C 1/00, F17C 13/04**

**Application No. 99112658.2. Date of application: 02 July 1999.**

**Priority: 03 July 1998 PL 32726298.**

**Date of publication of application: 05 January 2000, Bulletin 2000/01.**

**Designated contracting states:**

**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**

**Extension states: AL LT LV MK RO SI**

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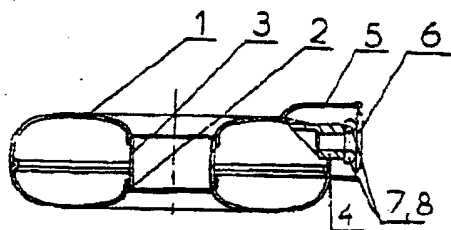
**Meyer & Partner, Hamburg**

**Title:**

**TOROIDAL TANK FOR LIQUID GAS**

**Summary**

The invention concerns a tank for liquid gas with a head piece for a multiple valve group. According to the invention the tank has a side jacketing (5) with a lid (6) which cover the multiple valve head, while in the head (4) surrounding by the jacketing on the sides two openings are provided for pipe lines (7, 6) for withdrawing and for filling and the multiple valve head is welded into the upper part of the tank.



**FIG. 1**

## **Description**

**The present invention concerns a toroidal tank for liquid gas.**

**From EP 0 473 555 a toroidal tank is known in which on the sides directed toward the center of the tank at least two head pieces are provided for valve groups.**

**Two pipelines, a withdrawing and a filling line run through the hollow space of the tank center which is closed by an upper and a lower lid. The two lids are screwed to the tank by screwing elements as a result of which they are pressed against the outer surface of the tank.**

**A disadvantage and an inconvenience of the known design is the fact that the hollow space in the center of the tank is closed and cannot be used for other purposes such as for fixation of the tank. In addition this design is costly to manufacture and install and requires numerous additional elements.**

**In order to simplify the above design the tank according to the invention with the headpiece for the multiple valve group displays a side jacket or covering with a lid which surrounds the multiple valve head while in the side lining surrounding the head two openings of the pipeline for withdrawing and for filling are positioned and the multiple valve head is welded into the upper part of the tank.**

**The tank consists of an upper and a lower floor as well a central part in the form of a profiled pipe which connects the two floors from the inside. The invention is explained in more detail by the attached drawings which show:**

**Figure 1: a toroidal tank in a cross half section and**

**Figure 2: a toroidal tank from the top.**

A toroidal tank for liquid gas according to the invention is formed by an external welded joint of the upper floor 1 and the lower floor 2 and an inner weld joint to the profiled pipe 3 which connects the two floors 1 and 2. In the upper floor 1 the multivalve head 4 is welded in, which is surrounded by the jacket 5 with the lid 6 welded onto the side.

The side jacket 5 has two openings for pipelines 7 and 8 for taking off and for filling.

**Reference numbers:**

- 1      upper floor
- 2      lower floor
- 3      profiled pipe
- 4      multivalve head
- 5      side jacket
- 6      lid
- 7      pipeline
- 8      pipeline

**Claims**

1.      Toroidal tank for liquid gas with a head piece for a multivalve group, characterized by the fact that it displays a side jacket (5) with a lid (6) which covers the multivalve head, while in the jacket covering the head (4) on the sides two openings are positioned for pipelines (7, 8) for withdrawing and for filling, and the multivalve head is welded into the upper part of the tank.
2.      Toroidal tank as in claim 1 characterized by the fact that the tank consists of an upper floor (1), a lower floor (2) and a central part in the form of a profiled pipe (3), the

central part connecting the two pipes (1, 2) which are connected to each other directly from the outside.

One page of drawings appended.

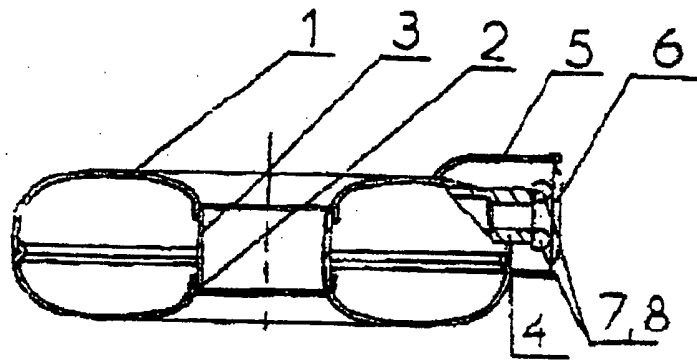


FIG. 1

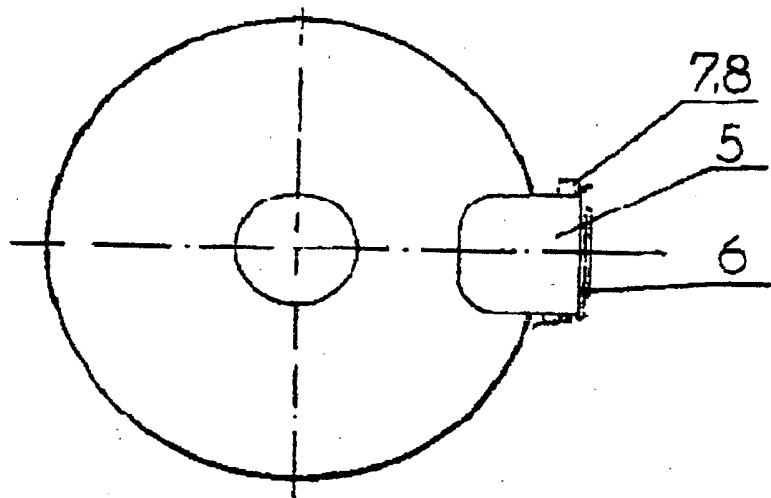


FIG. 2

DOCUMENTS CONSIDERED TO BE PERTINENT			
Category	Citation of document with indication if necessary of pertinent parts	claims	INT. CL. OF AP- PLICATION
A	WO 98 16403 A (Barabino Alphonso; Barabino Yves (FR)) 23. April 1998		F17C1/00 F17C13/04
A	FR 2 462 295 A (Pingeot Bardin Ets) 13 February 1981		
A	WO 97 09561 A (Robinson Donald Scott) 13 March 1997		
A	WO 97 03856 A (Icon SRL; Cippitani Luciano (IT)) 6 February 1997		
			<u>Areas searched</u>  F17C
Location of search The Hague		Date of search 25 January 2000	Examiner Meetens, J
<p><b>CATEGORY OF DOCUMENTS CITED</b></p> <p>X: especially pertinent alone</p> <p>Y: especially pertinent in combination with another document of same category</p> <p>A: technological background</p> <p>O: unwritten disclosure</p> <p>P: interim literature</p> <p>T: theory or principle at basis of invention</p> <p>E: older patent document only published on or after the application date</p> <p>D: document cited in the application</p> <p>L: document cited for other reasons</p> <p>.....</p> <p>&amp; Member of same patent family, concordant document</p>			

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON THE EUROPEAN PATENT APPLICATION NFL EP 99 11 2658**

<b>Patent cited in search report</b>	<b>Date of publication</b>	<b>Member of patent family</b>	<b>Date of publication</b>
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